REMARKS

By the above amendment, claims 52-61 have been canceled without prejudice or disclaimer of the subject matter thereof, and new claims 62-69 have been presented, more particularly setting forth the features of the present invention, as will be discussed below.

In accordance with the present invention, a plasma etching apparatus is provided for etching processing of a sample which is disposed inside of an etching chamber in which a processing gas is supplied by using a plasma generated inside of the etching chamber. As illustrated in Fig. 1 of the drawings of this application, a detachable member 103 is detachably held against a sidewall 102 of the etching chamber inside of the etching chamber so that the detachable member 103 forms an inner surface of the etching chamber which is in contact with the plasma, and in accordance with the present invention, the detachable member 102 is removable from the sidewall 102 to outside of the etching chamber. Furthermore, a thermally conductive medium is circulated inside of the detachable member so as to control a temperature of a surface of the detachable member during etching processing of the sample represented by the wafer W so that products formed in the etching chamber during the etching processing of the sample are deposited and maintained on the detachable member. Applicants note that pages 1 and 2 of the specification of this application describe the formation of reaction products during plasma etching processing of a sample and that such reaction products deposit on the inner wall of the etching chamber and they are often peeled off therefrom resulting in deterioration of the element characteristics of the element being processed and reduction of the yield. Applicants have determined as described at pages 20-24 of the specification, for example, that by utilizing a detachable member detachably held against a sidewall of the etching chamber and forming an inner surface of the etching chamber which is in contact with the plasma and by circulating a thermally conductive medium

inside the detachable member so as to control a temperature of a surface of the detachable member during etching processing of the sample, products formed in the etching chamber during the etching processing of the sample are deposited and maintained on the detachable member. More particularly, based upon test performed as described in the specification of the application, the film which is formed on the detachable member, as described at page 23, lines 2-4, "is highly resistant to plasma and it is acknowledged that peeling and damage of the film surface are not observed even by the processing of plasma and no dust is caused. As such, the sidewall of the etching chamber due to the utilization of the detachable member controlled in temperature in the manner described is suppressed from being scraped and consumed by the plasma, thereby reducing the frequency for replacement of the sidewall of the etching chamber, and generation of foreign objects from the sidewall as is obtained by peeling, for example, is suppressed, thereby enabling etching processing of the samples to be effected in a stable manner for a long period of time. Applicants submit that the independent claims 62 and 66 and the dependent claims thereof define the features of the present invention, as described above, and such features are not disclosed or taught in the cited art, as will become clear from the following discussion.

The rejection of claims 52-61 under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al, JP 4-214873 in view of Shinji, JP 9-275092 and Ishioka, JP 3-104222, is traversed, and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art

would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

> The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Irrespective of the position set forth by the Examiner, applicants note that JP 4-214873 to Tsuji et al discloses a plasma CVD apparatus for forming or depositing films on the surface of a specimen. Likewise, JP 3-104222 to Ishioka is directed to plasma CVD equipment as described in connection with Fig. 5 thereof, in which a

film is deposited on a specimen. In the CVD apparatuses of Tsuji et al and Ishioka, etching is conducted for scraping or removal of products deposited on the chamber walls, after the film has been deposited on the specimen, for purposes of cleaning, after the film deposition processing (CVD) has been completed. Applicants submit that in accordance with the present invention, as now recited in independent claims 62 and 65, a plasma etching apparatus for etching processing of a sample provides that products formed in the etching chamber during the etching processing of the sample are deposited and maintained on the detachable member, which differs from the disclosure of Tsuji et al and Ishioka, in which products are removed from the chamber walls during etching in a cleaning processing of the chamber. Thus, applicants submit that the disclosure and teachings of this cited art is contrary to the claimed features herein and claims 62-69 patentably distinguish thereover in the sense of 35 U.S.C. 103 and should be allowable.

Furthermore, the Examiner recognizes that Tsuji et al does not disclose that the member 20 is detachable and refers to Shinji (JP 9-275092) as disclosing a plasma apparatus comprising a member 12 that is detachably attached to the chamber in order to be easily removable. Applicants note that while the member 12 is described as being removable and Shinji is directed to a plasma etching apparatus, Shinji specifically provides that the protective wall member 12 is spaced from the chamber wall and that plasma processing is stabilized by introducing cooling gas into the space between the wall member 12 and the wall of the chamber. Thus, it is readily apparent that Shinji does not disclose a detachable member which is detachably held against a sidewall of the etching chamber inside of the etching chamber and having a thermally conductive medium circulated inside thereof as recited in the independent claims of this application or the other features thereof. As such, applicants submit that the cited art cannot be properly combined to provide the claimed features as set forth in the independent and dependent claims of this

application in the sense of 35 U.S.C. 103. Rather, the Examiner has selected bits and pieces from the prior art contending that it would be obvious to put the same together in order to provide the claimed invention utilizing a hindsight analysis and the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra. Accordingly, applicants submit that independent claims 62 and 66 and the dependent claims patentably distinguish over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

The Examiner recognizes that various features as claimed are not disclosed in the cited art, such as the apparatus being a plasma etching apparatus for etching processing of a sample wherein a thermally conductive medium is circulated inside of the detachable member so as to control a temperature of the surface of the detachable member during etching processing of the sample so that products formed in the etching chamber during the etching processing of the sample are deposited and maintained on the detachable member. The Examiner contends that such features are "method limitations instead of apparatus limitations" and the method limitations are not considered. Contrary to this position by the Examiner, the claims recite the feature of an apparatus operating in a particular manner at a particular time, which features cannot be ignored, irrespective of the Examiner's position and form a limitation in terms of the characteristics of the apparatus, as claimed, and cannot be ignored. Thus, applicants submit that there is no disclosure in the cited art of utilizing the structure contended to be present therein by the Examiner so as to provide the claimed characteristics of the independent and dependent claims of this application. Again, applicants note that the independent claims specifically recite the feature of a detachable member detachably held against a sidewall of the etching chamber and forming an inner surface of the etching chamber which is in contact with the plasma, which detachable member is removable from the sidewall to outside

of the etching chamber and has a thermally conductive medium circulated inside thereof during etching processing of the sample so that products formed in the etching chamber during the etching processing of the sample are deposited and maintained on the detachable member in the sense of 35 U.S.C. 103. Thus, applicants submit that all claims present in this application patentably distinguish over this cited art in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

Applicants note that claim 66 recites the feature of a temperature controller and the dependent claims recite additional features which patentably distinguish over the cited. Thus, applicants submit that claims 62-69 should be considered allowable at this time.

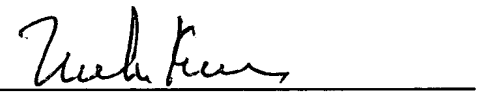
Applicants note that the Examiner in the past has cited other art including Collins et al (US 6,068,784), Goto et al (US 5,834,277) and Hanaguri (JP 1-208449) and these references also fail to disclose or teach the recited features of the present invention. Applicants note previously, in etching processing of a sample conducted by supplying a gas in the etching chamber to generate plasma, such processing was effected based on the premise that the wall of the chamber is scraped and consumed by the plasma for conducting etching and controlling the temperature so that consumption of the wall is suppressed by increasing the temperature to a certain level or higher so that products, even when deposited, are again dissociated. The present invention is directed to an apparatus which performs in a substantially different manner in controlling a temperature of a detachable member detachably held against a sidewall of the etching chamber during etching processing of a sample so as to deposit and maintain the products produced during the etching processing of the sample on the detachable wall member and maintaining such products thereon. Such features as recited in the independent and dependent claims of this application are contrary to the disclosure and teaching of the cited art

and applicants submit that all claims present in this application patentably distinguish thereover.

In view of the above amendments and remarks, applicants submit that all claims present in this application patentably distinguish over the cited art in the sense of 35 U.S.C. 103 and should be considered allowable at this time. Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (520.34403CV4) and please credit any excess fees to such deposit account.

Respectfully submitted,



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